

Exhibit B

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

HONEYWELL INTERNATIONAL INC and)
HONEYWELL INTELLECTUAL PROPERTIES)
INC.,)
)
 Plaintiffs,)
)
 v.) Civil Action
) No. 99-309 (GMS)
HAMILTON SUNDSTRAND CORPORATION,)
)
 Defendant)
)
)

EXPERT REPORT OF MELVIN GARNER

I. INTRODUCTION

1. Pursuant to Rule 26(a)(2)(B) of the Federal Rules of Civil Procedure, I, Melvin Garner, give this Expert Report. I am prepared to testify at trial on behalf of Plaintiffs as an expert on the operation, rules of practice and procedures of the United States Patent and Trademark Office ("USPTO") and the reasonable practices of patent attorneys prosecuting patent applications before the USPTO

II. MATERIALS CONSIDERED

2. I have considered the following materials in preparing this Report:

- a. The patents-in-suit;
- b. The file histories of the patents-in-suit and the references cited therein;
- c. The pleadings in the case, including *Hamilton Sundstrand's Brief in Support of its Motions for Judgment as a Matter of Law and for a new Trial on Issues Pertaining to Liability, Honeywell's Opposition to Hamilton Sundstrand's Brief in Support of its Motions for Judgment as a Matter of Law and for a new Trial on*

Issues Pertaining to Liability, Hamilton Sundstrand's Reply Brief in Support of its Motions for Judgment as a Matter of Law and for a new Trial on Issues Pertaining to Liability, Defendant Hamilton Sundstrand Corporation's Renewed Motions for Judgment As a Matter of Law Under Fed. R. Civ. P. 50 or, in the Alternative, for a new Trial Under Fed. R. Civ. P. 59, Honeywell's Memorandum in Support of its Post-Trial Motions Pursuant to Fed. R. Civ. P. 50 for Judgment as a Matter of Law, Hamilton Sundstrand's Brief in Opposition to Honeywell's Rule 50 Motions for Judgment as a Matter of Law, Honeywell's Reply Memorandum in Support of its Post-Trial Motions Pursuant to Fed. R. Civ. P. 50 for Judgment as a Matter of Law, and Hamilton Sundstrand's Response to Plaintiffs' First Set of Requests for Admission;

- d. The decisions of the courts in *Honeywell Int'l Inc. v. Hamilton Sundstrand Corporation*, 166 F. Supp. 2d 1008 (D. Del. 2001) and *Honeywell International Inc. and Honeywell Intellectual Properties, Inc. v. Hamilton Sundstrand Corporation*, 370 F.3d 1131 (Fed. Cir. 2004);
- e. The expert reports of Francis G. Shinskey dated November 10, 2000 and December 1, 2000; and
- f. The expert Reports of Gerard Muller dated October 27, 2000 and November 10, 2000.

III. QUALIFICATIONS

- 3. I graduated from Drexel University in 1964 with a B.S. in Electrical Engineering degree. While at Drexel I received the Drexel Technical Journal Award for the best student article published in 1963. I was elected to Eta Kappa Nu, the Electrical Engineering Honor

Society, and was President of the student chapter of the Institute of Electrical and Electronic Engineers. I obtained an M.S. in Electrical Engineering degree from New York University in 1967.

4. I was employed as an Electrical Engineer by IBM, CBS Laboratories and Sequential Information Systems, respectively, from 1964 to 1970. During this period I rose from the rank of Junior Engineer to Project Engineer.

5. From 1970 to 1973 I was employed as a Member of Patent Staff at Bell Telephone Laboratories (now Lucent Technologies, Inc.) becoming a Patent Agent registered to practice before the USPTO in 1972. All of my work during that period of time involved patent prosecution.

6. While working at Bell Telephone Laboratories I attended Brooklyn Law School, graduating in 1973. At Brooklyn Law School I was on Law Review and was a Senior Editor of the Law Review in 1973.

7. From 1973 through 1981 I was an Associate at the law firm of Brumbaugh, Graves, Donohue & Raymond (now part of Baker & Botts) where I was primarily involved in patent prosecution, but also worked on patent litigation and opinions.

8. In 1982 I joined the law firm of Darby & Darby P.C. as an Associate and became a Principal in 1985. I remain with Darby to this day. My work at Darby has been a mix of patent prosecution, litigation and opinion work.

9. As part of my work at Darby I have acted as an expert witness in a number of cases. In three of those cases, which were tried in New York, Connecticut and Virginia, I was asked to testify at trial and was accepted by the Court as an expert in patent office procedure and the practice of patent law by those registered to practice before the USPTO, as well as electrical

engineering. Those cases are *Velobind v. Southwest Plastics*, Civ. Action No. 89-0193-C-A (S.D.N.Y. 1989); *Ethicon, Inc. v. United States Surgical*, 937 F. Supp. 1015 (D. Conn. 1996); and *Berry Sterling Corp. v. Pescor Plastics, Inc.*, Civ. Action No. 95-1412A (AVB) (E.D. VA 1995).

10. I have lectured at the Practising Law Institute ("PLI") since about 1985. This non-profit organization provides educational training to lawyers on a variety of topics. At least once a year, and more often twice a year, I have lectured lawyers at the PLI on patent prosecution topics. In addition, I have lectured at the PLI on patent litigation, patent licensing and patent portfolio management strategies. For about three years I also lectured on patent prosecution at programs put on by the American Intellectual Property Law Association.

11. During my career I have been lead counsel in about 30 litigations, and have prosecuted or supervised the prosecution of thousands of patent applications.

12. I received the Drexel University Distinguished Alumni Award in 2005.

13. I am listed in Who's Who Legal - Patents 2005 and in Euromoney's *Guide to the World's Leading Patent Law Experts*.

14. I was recognized as one of "America's Top Black lawyers" in the November, 2003 issue of *Black Enterprise Magazine* and as one of the "Intellectual Property Superstars" in the May/June issue of *Diversity & the Bar*.

15. I was President of the New York Intellectual Property Law Association, 2003-2004, and am currently the President of the American Intellectual Property Law Association.

16. The accompanying Curriculum Vitae provides additional background material relating to my professional experience. (**Exhibit A**)

IV. PUBLICATIONS

17. A list of my publications within the preceding 10 years is set forth in attached **Exhibit B**.

V. COMPENSATION

18. I am being compensated for my work in connection with this litigation at my normal hourly rate of \$625 per hour. I have no financial interest in the outcome of the case.

VI. PRIOR TESTIMONY

19. In the last 4 years, I have not provided deposition or trial testimony as an expert in any case.

VII. BACKGROUND

20. I have been retained by Honeywell in this action as a consultant, and prospectively as a testifying expert witness, to provide my opinion as to the prosecution before the U.S. Patent & Trademark Office of claims 8 and 19 of U.S. Patent No. 4,380,893 of Stokes et al. (the “893 patent” attached as **Exhibit C**) and claim 4 of U.S. Patent No. 4,428,194 of Stokes et al. (the “194 patent” attached as **Exhibit D**). In particular, I have been retained to provide an opinion as to whether the amendments to those claims during prosecution with respect to operation of the control device as a function of the position of the inlet guide vanes (a) could have been written in a foreseeable way to cover the Sundstrand guide vane Lock-out operation (b) bore no more than a tangential relation to the equivalent used in the Sundstrand system or (c) there was some other reason suggesting that the patentee could not reasonably have been expected to have described the alleged equivalent so that file wrapper estoppel should not apply.

21. It is my understanding from a review of the District Court and Federal Circuit opinions that in the present litigation at the trial level, Honeywell prevailed on the issue of the validity of the '893 and '194 patents. Honeywell also prevailed on the issue of infringement of claims 8, 10, 11, 19 and 23 of the '893 patent and claim 4 of the '194 patent under the doctrine of equivalents. On appeal, the Federal Circuit held since each of the claims had been amended during prosecution, a presumption of surrender of equivalents to the inlet guide vane limitation was created under the doctrine of prosecution history estoppel. The court remanded the case to the district court to consider whether Honeywell can rebut the presumption of prosecution history estoppel.

A. DISCLOSURES OF U.S. PATENTS Nos. 4,380,893 & 4,428,194

22. The disclosures of the '893 and '194 patents are the same, being parent and divisional applications, respectively. They relate to an apparatus and a method for providing compressor bleed air control in an auxiliary power unit ("APU"), particularly as used in aircraft.

23. An APU is a small gas driven turbine engine usually located in the tail section of an airplane. The APU generates electricity with a generator 12 (Fig. 1) and has a load compressor 18 that provides compressed air to operate pneumatically-operated aircraft accessory systems, e.g., environmental control system 14. A valve 52 is used to control the amount of air exiting the compressor and delivered to the aircraft's accessory systems. The volume of the compressed air required for these accessory systems fluctuates substantially.

24. Rapid changes in the demand for compressed air can produce "surge," a flow instability that occurs when pressure builds up in the main air duct 48. In a surge condition, the air attempting to exit air duct 48 is unable to do so, and as a result it reverses direction, surging back into the compressor and potentially damaging the APU. Prior art systems controlled surge

by drawing in more air than was needed and venting the excess through a surge bleed valve 58 to the discharge passage 42 of the APU in order to reduce the pressure in the main air duct 48. Such systems maintained sufficient output airflow to control surge, but were inefficient in that they wasted energy by drawing in more air than might be needed.

25. The control of the APU according to the patents is designed to be more efficient by avoiding the venting of excess air as a way of controlling surge. It uses an electronic controller 86 to determine when and how far to open the surge bleed valve in order to maintain a level of flow sufficient to avoid surge. The electronic controller establishes a "set point," which represents the minimum flow at which surge can safely be avoided. In operation, ambient air is drawn into the APU through a set of adjustable inlet guide vanes (IGV) 46. The position of the guide vanes is sensed by a sensor 98 and that signal 90 is applied to the electronic controller. In addition, the total pressure P_t is measured to provide a signal 82 and the differential pressure $P_t - P_s$ is determined to provide a signal 84, both of which are measured in the main air duct 48 by a flow sensor 72. (Fig. 3)

26. In the electronic controller 86 (Fig. 4), a divider 100 computes $(P_t - P_s)/P_t$ to form a signal 102. A signal 96 from a pressure sensor in the load compressor inlet, and an atmospheric pressure signal 116 are combined and multiplied to produce an actual altitude signal 120. A manual reset minimum demand signal 94 is modified by a signal generator 110 to provide a signal 112 and the IGV signal 90 drives a function generator 104 to produce a signal 106. The signals 106, 112, 120 and 102 are received by a comparator 122 and are used to generate the set point or error signal 126, which is passed through a kicker control 138 and combined with a manually selected zero demand signal 92 in OR gate 142 to provide a shut off signal 144. The set point error signal 126 is also passed through a dynamic compensator 124 and

drives an integral controller 130 and a proportional controller 128 which are connected in parallel. The outputs of these controllers are combined in the summer 136 and the summer output drives a torque motor 60 that controls the position of the surge bleed valve 58. Thus, a comparison is made between the actual flow conditions (represented by the flow-related parameter) and the desired flow conditions (represented by the set point). If the system determines that airflow out of the main air duct 48 is too low, the surge bleed valve will be opened to draw more air through that duct and vent it to the discharge passage of the APU, thereby preventing the build up of excess pressure leading to surge.

B. FILE HISTORY OF THE '893 PATENT

27. The application which led to the '893 patent was filed on February 19, 1981 as Serial No. 235,795 with 52 claims.

28. In the first office action, which issued on September 17, 1982, the examiner confirmed a restriction requirement. In particular, the examiner determined that claims 1-40 were drawn to a compressor control apparatus, which the examiner considered a separate invention from the compressor control process defined by claims 41-52. During a telephone interview the applicant's patent attorney had elected claims 1-40 with traverse. i.e., he retained the right to object to the restriction requirement.

29. The office action also addressed the merits of claims 1-40. In particular, claims 1-5, 11-15, and 21-40 were rejected under 35 U.S.C. 112 as being indefinite because these claims recite "flow rate" as a sensed control parameter, when the disclosure states that pressure is sensed as an indication of flow rate. Claims 28, 31, 34 and 37 were rejected under section 112 as being vague because of the use of the term "predetermined mode of operation."

30. Further, claims 1 and 11 were rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 3,411,702 of Metot et al. Claims 1-3, 6, 10-13, 32, 37, 39 and 40 were rejected under 35 U.S.C. 103 as obvious and unpatentable over U.K. Patent No. 1,021,797 of Shell Oil in view of U.S. Patent No. 1,052,172 of Rateau or the Metot patent. Claim 7 was rejected on the same grounds as claims 1-3, 6, 10-13, 32, 37, 39 and 40 and further in view of U.S. Patent No. 3,047,210 of Best. Claims 16, 19-22, 27-29 and 38 were rejected like claims 1-3, 6, 10-13, 32, 37, 39 and 40 and further in view of U.S. Patent No. 2,994,471 of Lewis et al.

31. The Examiner indicated, however, that claims 8, 9, 17 and 18 would be allowed if written in independent form, and claims 4, 5, 14, 15, 23-26, 30, 31, and 33-36 would be allowed if amended to overcome the rejections under section 112 and rewritten in independent form. While claims 4, 5, 8, 9, 17, 23-26, 35 and 36 had the IGV limitation, claims 14, 15, 30, 31, 33 and 34 were not limited to the IGV position. Thus, the attorney would not have considered the IGV limitation as the sole basis for the patentability of the claims.

32. In an Amendment dated October 25, 1982, which was filed in response to the office action, claims 4, 8, 14, 17, 23, 30, 33 and 34 were rewritten in independent form. Each of claims 4, 8, 17 and 23 contained exactly the same IGV language they had as dependent claims. Further, claim 10 was made to depend on claim 8, claims 19 and 20 were made to depend on claim 17, claim 27 was made to depend on claim 23, and claims 38-40 were made to depend on claim 35. In addition, changes were made to some of the claims in order to overcome the rejections under section 112. The remaining claims were "cancelled without prejudice." The remarks also indicated that claims 41-52 had been filed in a divisional application.

33. The Examiner then issued a Notice of Allowance, the issue fee was paid, and the application issued as a patent on April 26, 1983 in which application claims 4, 8, 14, 17, 23, 30, 33 and 34 became patent claims 1, 3, 6, 8, 12 and 17-19, respectively.

C. FILE HISTORY OF THE '194 PATENT

34. The application which led to the '194 patent was filed on September 27, 1982 as Serial No. 426,674 and as a division of application No. 235,794, i.e., the application which led to the '893 patent. The original application was filed with the same 52 claims as the application for the '893 patent, but claims 1-40 were cancelled because they were covered by the parent application.

35. In an office action dated August 18, 1983, the Examiner rejected claims 41-43 and 52 under 35 U.S.C. 103 as being obvious and unpatentable over U.K. Patent No. 1,021,797 of Shell Oil in view of U.S. Patent No. 1,052,172 of Rateau or U.S. Patent No. 3,411,702 of Metot et al. Claims 44 and 45 were rejected for the same reasons as claims 41-43 and 52, but further in view of U.S. Patent No. 3,047,210 of Best. Similarly claims 48 and 49 were rejected for the same reasons as claims 41-43 and 52, but further in view of U.S. Patent No. 2,994,471 of Lewis et al.

36. The Examiner stated that "claims 46, 47, 50 and 51 will be allowed if rewritten in independent form."

37. The applicant responded with an Amendment dated August 30, 1983 in which claims 46, 50 and 51 were rewritten in independent form and claims 41-45, 48, 49 and 52 were cancelled without prejudice. Claim 46 (patent claim 1) contained the original unchanged limitation "adjusting said set point in response to variations in the position of the inlet guide vanes." The original unchanged limitation of claim 50 (patent claim 3) was: "interrupting said

integral control signal when the difference between the actual value of said parameter and a desired value thereof exceeds a predetermined level.” Thus, the amendment and allowance of claim 50 was not based on an IGV limitation. Claim 51 (patent claim 4) had the original unchanged language: “adjusting the relationship between the magnitudes of said integral and proportional control signals and the magnitudes of said parameter variations as a function of the position of the inlet guide vanes”.

38. A Notice of Allowance issued, the issue fee was paid and the patent issued on January 31, 1984.

VIII. BASIS AND REASONS FOR THE OPINION

39. The language in question in paragraph (f) of claim 8 and paragraph (g) of claim 19 of the ‘893 patent is as follows:

(f) means for transmitting to said comparator means a reset signal for varying said set point as a function of the position of said inlet guide vanes in accordance with a predetermined reset schedule;

(g) a guide vane position sensor and a function generator coupled in series between the inlet guide vanes and said input portion of said comparator.

The language of paragraph (d) claim 4 of the ‘194 patent is

(d) adjusting the relationship between the magnitudes of said integral and proportional control signals and the magnitudes of said parameter variations as a function of the position of the inlet guide vanes.

40. As shown in Figure 1 of the patents, the position of the inlet guide vanes 46 is sensed by sensor 98 and that information 90 is input to the electronic control 86 to set the surge bleed value 58. Figure 4 shows the signal 90 being applied to function generator 104 and mixed with other signals in comparator 122 to control the set point signal 126.

41. It is my understanding that Sundstrand contends that its APS 3200 has a Modulating Control System for avoiding surge in which DELPQP (a parameter based on the

static pressure in the diffuser and the exit scroll) is compared to a set point which is adjusted based on the temperature at the inlet to the compressor. The measured value of DELPQP is compared to the desired value -the set point- and an error signal reflecting the difference is generated. The error signal in turn generates proportional and integral control signals that modulate the position of the surge valve, opening it to the extent necessary to exhaust a sufficient amount of air so that the value of DELPQP will be controlled at the set point value. If there is a high flow rate, the measured value of static pressure falls, which would falsely indicate that the surge region is being approached. If DELPQP dropped below the set point, the surge valve would be opened. However, since at high flow rates surge is not a concern, the Control System engages a Lock-out Feature¹, which disconnects the Modulating Control System from controlling the surge bleed valve and locks the valve closed. The determination of high flow depends on sensing if the Static Pressure Parameter is greater than 0.35 and when the guide vanes are at least 20% open. (Sundstrand's Expert Report of Shinskey dated November 10, 2000, pages 8-12).

42. In effect, the Lock-out Feature has the same effect as moving the set point to infinity, i.e., there is no value for which the surge valve will open. I also understand that there was testimony at trial by Sundstrand's expert witness that the DELPQP signal will vary depending on the IGV setting. Honeywell's Opposition Brief, page 5.

A. The Need to Literally Claim the Lock-out Was Not Foreseeable

43. In 1982, by which time I had been registered to practice before the USPTO for 11 years, the concept of prosecution estoppel was well understood by patent attorneys. This was at a time when the Federal Circuit had just been created. At that time the doctrine was referred to

¹ As should be clear from this discussion, the Lock-out Feature is just one aspect of the equivalent utilized by Hamilton Sundstrand in its APS 3200.

as “file wrapper estoppel,” after the folder in which examiners kept copies of the application and the other documents concerning its prosecution. Reasonable patent attorneys during that period would have presumed that any amendment to the claims to avoid prior art would have resulted in an estoppel giving up equivalents in the range between the original claim scope and the literal language of the amended claim, only to the extent necessary to avoid the prior art in under consideration by the applicant and the examiner. Thus, even when claims were amended, the doctrine of equivalents applied to the amended language, so long as it was not extended to cover the prior art for which the claim was amended to avoid. This was known as “flexible estoppel.”

See, Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 234 F.3d 558; 572, 608 (Fed. Cir. 2000) (FESTO I).

44. Where, as here, a dependent claim was found to be allowable and the applicant’s attorney rewrote it in independent form and cancelled the broader original independent claim, a reasonable patent attorney practicing before the USPTO in 1982 would not have believed that any prosecution estoppel was created. At that time the attorney would have believed that rewriting a dependent claim in independent form was not a change in claim scope. Also, the cancellation of a broad claim would not have been considered a dedication to the public of any equivalent to the unchanged elements of the dependent claim. Even attorneys practicing after the Supreme Court’s *Festo* decision would not have envisioned this effect. Note that Circuit Judge Newman’s dissent in *Festo* illustrates this point, particularly because Judge Newman in 1982 was a patent attorney and Director of Patents and Licensing at FMC Corporation.

45. The first *Festo* decision by the Federal Circuit, which replaced the flexible estoppel with a complete estoppel, was considered by attorneys practicing before the USPTO as a radical departure from the existing state of the law. Therefore, a reasonable patent attorney in

1982 could not have conceived of this change. After the Supreme Court Festo decision, patent attorneys understood that the estoppel was created by changing the claim language in view of the prior art, not by failing to change the allowed wording to words broad enough to entirely cover the equivalent.

46. There is no indication in the file histories of the patents-in-suit that the Sundstrand equivalent, including its Lock-out technique, was known in the art. Thus, it represents “later-developed technology that was not known in the relevant art, [and thus] it would not have been foreseeable.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 344 F.3d 1359, 1369 (Fed. Cir. 2003) (Festo IX). Because at the time of the amendment the Lock-out was not known to the applicant or the Examiner as an equivalent of the change in set point, it would not have been foreseeable to a reasonable patent attorney to draft claim language to cover the Lock-out. See also *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002) (Festo II).

47. Specifically, it is my opinion that a reasonable patent attorney prosecuting the patents-in-suit would not have foreseen the need to redraft the elements of the claims that relate to the inlet guide vanes (IGV), and which had already been found by the examiner to constitute patentable subject matter, in a way to cover literally the Lock-out operation of Sundstrand because that possibility was not before him. In fact, no reference was cited during the prosecution by the examiner showing the use of IGV signals to control the surge valve. (See Hamilton Sundstrand’s Response to Plaintiffs’ First Set of Requests for Admission, Response No. 5.) Further, the claims with this limitation were allowed or found to be allowable in the first office action without any discussion by the examiner as to any feature or arrangement of the parts of those elements that made the claims patentable. As a result, the attorney prosecuting the case would assume that the IGV element was broadly patentable and subject to a full range of

equivalents. Therefore, not only was it not foreseeable that language literally covering the Lock-out would be necessary, there was nothing in the prosecution to cause either the applicant or the Examiner to further consider these elements.

B. The Amendment to the Claims Had No More Than a Tangential Relation to the Lock-out Equivalent

48. The amendment of claims 8 and 19 of the '893 patent and claim 4 of the '194 patent to add the limitations from the broad claims on which they depended, in no way changed the language of elements (f), (g) and (d), respectively. So it is clear that the actual change to these claims had no "more than a tangential relation to the equivalent" between the claims and the Sundstrand system.

49. The inlet guide vane limitation played no role in the amendments of the claims at issue. As noted by Shinskey, Sundstrand's technical expert, "each guide-vane position has its surge limit" (page 7 of the November 10th report). However, there was no prior art cited by the examiner which the applicant sought to overcome in which the effect of guide vane position was set forth. In fact, application claim 17, which became patent claim 8, and application claim 35, which became claim 19 of the '893 patent, as well as application claim 51 of the '194 patent, which became patent claim 4, were considered allowable in the first office action. Where an amendment is made to avoid prior art that contains the equivalent in question, it is clearly not tangential to that equivalent. Importantly, the converse is also true, i.e., where the change bore no relation to overcoming prior art that contains the equivalent (or anything like the equivalent), the change is no more than tangential to that equivalent. See *Engineered Products Co. v. Donaldson Company, Inc.*, 313 F. Supp. 2d 951, 973-4 (N.D. Iowa 2004) citing *Pioneer Magnetics, Inc. v. Micro Linear Corp.*, 330 F.3d 1352, 1355 (Fed. Cir. 2003).

50. The purpose of the amendment was to accept allowance of the claims that included the guide vane position language. A reasonable patent attorney at the time would have believed that this acceptance and amendment would have left the patent holder with coverage of the inlet guide vane limitation and its equivalents. This is because the “rational underlying the amendment” to include language to vary the set point, to trigger a function generator or to change a relationship, as recited in the claims, was no more than tangential to the Lock-out feature of Sundstrand, a feature that was not before the examiner or the applicant. See *Instituform Technologies, Inc. v. CAT Contracting, Inc.*, 385 F.3d 1360, 1368 (Fed. Cir. 2004).

51. “The correct inquiry is whether the rationale underlying the amendment, the ‘reason the amendment was submitted’ -- not the amendment itself -- is more than peripherally related to the equivalent in question.” *Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 287 F. Supp. 2d 126, 150 (D. Mass. 2003) quoting from *Festo II*. Here, the prosecution history makes clear that the rational for submitting the amendment had nothing to do with the equivalent Lock-out system. Thus, it cannot be said that the applicants intentionally disclaimed any equivalent between some other broad language with respect to guide vanes and that which is in the claims. *Cordis Corp. v. Medtronic Ave, Inc.*, 336 F. Supp. 2d 363, (D. Del. 2004)

C. The View That the Claims Already Literally Covered the Effect of IGV On Surge Control Is Another Reason Suggesting the Patentee Could Not Reasonably Have Literally Claimed the Lock-out

52. The presumption of estoppel may also be overcome if the patentee can show some other reason suggesting that the patentee could not reasonably be expected to have described the insubstantial substitute in question. An example of this is where a person skilled in the art would assume that the language already covered the equivalent. *Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 287 F. Supp. 2d 126, 157 (D. Mass. 2003).

53. As noted in the Expert Report of Gerard Muller dated October 27, 2000, one of ordinary skill in the art would believe that claim 4 of the '194 patent literally covered the Sundstrand Lock-out device. Paragraph 40 & 44-45. The language in clause (d) of claim 4 of the '194 patent calls for "adjusting the relationship between the magnitudes of said integral and proportional control signals and the magnitudes of said [flow-related] parameter variations as a function of the position of the inlet guide vanes." The Sundstrand Lock-out disables the use of the integral and proportional control signals and thereby changes their relationship with the flow-related parameter based on the inlet guide vane position. This provides an additional reason suggesting that the patentee could not reasonably have been expected to describe the equivalent, since one skilled in the art would think that he already had.

54. The language in clause (f) of claim 8 of the '893 patent calls for "a reset signal for varying said set point as a function of the position of said inlet guide vanes." In my opinion, a reasonable attorney practicing before the USPTO would assume that an inlet guide vane reset signal would cover the Sundstrand Lock-out signal. Note that the specification of the '893 patent states that this "guide vane-related adjustment is accomplished by a function generator 104 which receives reset signal 90 and responsively generates an output signal 106 related to signal 90 according to a predetermined, generally linearly increasing reset schedule 108 as graphically illustrated in FIG. 4" (Col. 6, lines 43-48). In Fig. 4 the function generator is shown with a slope of about 60°. If it were 90° it would result in a lock-out. Claim 8 does not specify the slope, so it could reasonably be interpreted as being broad enough to cover the Sundstrand Lock-out.

55. The language in clause (g) of claim 19 of the '893 patent calls for "a guide vane position sensor and a function generator coupled in series between the inlet guide vanes and said input portion of said comparator." As can be seen in block 104 of Figure 4, the function

generator does not produce a change in signal for a range of input guide vane (IGV) angles and then slopes up at a constant value after a break point. Claim 19 does not specify the slope. Thus, like the Lock-out of Sundstrand, it takes effect only after a certain condition is reached and after that point it has an effect, which the claim does not limit to a linear slope. In my opinion, a reasonable attorney practicing before the USPTO would assume that an inlet guide vane reset signal would cover the Sundstrand Lock-out signal, where the slope would be vertical after the break point.

56. Each of elements (f), (g) and (d) provide variations on the use of IGV that were known to the applicant, so the applicant reasonably believed that all uses of IGV in the control of the surge valve were covered. This is an additional other reason the patentee could not reasonably be expected to have described the equivalent.²

IX. CONCLUSION

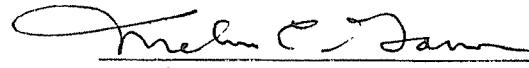
57. Based on a review of the patents-in-suit, their file histories and the prior art cited therein, it is my opinion that the amendments to claims 8, and 19 of the '893 patent and claim 4 of the '194 patent (a) were made without it being foreseeable that the Lock-out feature was an equivalent, (b) were only tangentially related to the equivalent and (c) would have been viewed by the patent attorney prosecuting the claims as covering all versions of IGV control, thus providing another reason that the effect of the amendment was not foreseeable.

58. I reserve the right to give opinions on facts and other matters arising subsequent to this report, including in rebuttal, either prior to or during any hearing or trial in this action.

² As described in Section VIII(A) of this Report, the need to redraft the claims to literally cover the Sundstrand equivalent would not have been foreseeable to a reasonable patent attorney in 1982-83. While I have discussed this argument under the "foreseeability" prong of the *Festo* test, it might also be characterized under the case law as an "other reason" why the equivalent was not described in the patent-in-suit.

59. Further, I reserve the right to supplement this report.

Dated: December 15, 2005



Melvin C. Garner